

REMARKS

Claims 1, 3-17, 19, 39-45 and 47-57 are now pending in the application. Claims 55-57 are added by this amendment. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

INTERVIEW SUMMARY

Applicants thank the Examiners for the interview granted on October 13, 2009. During the interview, the cited art to Hynes and Foley was discussed. During the interview, Applicants' representative Michael Taylor argued that the cited art did not anticipate or fairly render obvious the pending claims and discussed various elements in the claims. Although an agreement as to the allowability to the claims was not reached, Applicants respectfully submit that an agreement was reached that the cited art did not anticipate or fairly render obvious a pistol grip configured handle, as now recited in various claims, including Independent Claim 48.

Further, Applicants believe an agreement was reached that the cited art did not anticipate a dove-tail connection as disclosed in the application, including at least in Figs. 3-4A. Applicants have added further recitation of a dovetail connection in Claims 19 and 57.

Applicants further believe an agreement was reached that at least Fig. 4B sufficiently discloses a cannula operable to be adjusted, regarding the rejection of at least Claims 6-8.

DOUBLE PATENTING REJECTION

Claims 39, 42-43, 48-53 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-8, 14, 16, 32, 33, 42-46, 50 of U.S. Patent No. 6,725,080.

While Applicants respectfully disagree with the Double Patenting rejection, to expedite prosecution of the subject application, Applicants file herewith a Terminal Disclaimer disclaiming any portion of a patent that issues from the subject application that would extend beyond the term of U.S. Patent No. 6,725,080. In light of the Terminal Disclaimer filed herewith, Applicants respectfully submit that the double patenting rejection is rendered moot and request that the double patenting rejection be withdrawn.

SUBSTITUTE SPECIFICATION

Applicants properly claimed priority to and incorporated by reference U.S. Patent Application No. 09/795,126 (now U.S. Patent No. 6,725,080). Because the priority claim and the incorporation by reference was proper, the entire specification of the '126 application can be included in the subject application per 37 CFR §1.57 and MPEP 608.01(p)(I)(B.). Applicants file herewith a substitute specification, without claims according to 37 C.F.R. § 1.125 and M.P.E.P. 714 (II.) (B.). Reference herein is to the substitute specification.

Applicants state that no new subject matter is added by this substitute specification at least because the substitute specification includes only that language

included in the application as filed, in the subject application, or in the properly incorporated by reference U.S. Patent Application No. 09/795,126.

Applicants have included in the substitute specification the cross-reference previously filed as a preliminary amendment with the application and have included the now issued patent number for the U.S. patent application Ser. No. 09/274,972 at page 6, line 20 in the application as filed.

Also, a marked-up specification is filed herewith to show changes made from the previously filed specification in the subject application.

DRAWINGS

The drawings stand objected to because the drawings must show every feature of the invention specified in the claims. The Office asserts that the dovetail connector and the adjustable cannulas must be shown or the features canceled from the claims.

As discussed above, Applicants respectfully submit that an agreement was reached during the interview with the Examiners that the drawings do disclose both a dove-tail connector and adjustable cannulas. As discussed with the Examiners, at least Fig. 4A sufficiently illustrates a dove-tail connector at least in Claims 19 and 57. Fig. 4B, as discussed during the interview, sufficiently discloses adjustable cannulas, as claimed at least in Claims 6-8. Accordingly, Applicants respectfully request that the objections to the drawings be withdrawn.

REJECTION UNDER 35 U.S.C. § 112

Claims 6, 7, 8 and 11 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

Claim 6 has been amended to recite "wherein at least one of the plurality of cannulas is individually adjustable to vary an angular position of the at least one of the plurality of the cannulas relative to the fixture and the peripheral structure." As discussed above, in the Interview Summary and relating to the Drawings, Applicants respectfully submit that an agreement was reached that adjusting the cannulas is illustrated clearly in at least Fig. 4B. In addition, the description relating to Fig. 4B, including paragraph 47, discloses the adjustability of one or more of the cannulas. Accordingly, Applicants respectfully request the rejection to Claims 6-8 be withdrawn.

Claim 11 has been amended to recite "the peripheral structure is machine operated." Applicants respectfully submit that machine operated is clear and supported by the application as filed, including at least in paragraph 44. Accordingly, Applicants respectfully submit that support is provided in the application as filed and request that rejection to Claim 11 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 3-10, 12-13, 17, 19, 39-45 and 47-54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hynes et al. (U.S. Pat. No. 6,117,143, herein Hynes) in view of Cosman (U.S. Pat. No. 6,675,040 B1, herein Cosman) and Foley et al. (U.S. Pat. No. 6,226,658 B1, herein Foley). Claims 11 and 16 are stand rejected under 35

U.S.C. § 103(a) as being unpatentable over Hynes in view of Cosman and Foley as applied to Claim 1 above and further in view of Funda et al. (U.S. Pat. No. 5,572,999). Claims 14-15 are stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hynes in view of Cosman and Foley as applied to Claim 1 above. These rejections are respectfully traversed.

Independent Claims 1, 39, and 48 have been rejected under a combination of Hynes, Cosman, and Foley. Hynes is directed to a system for stereotactic surgery including a head clamp 2 that is affixed to a patient's head H with a plurality of fixation pins 12. Connected with the head clamp 2 can be an articulated arm 38 that includes a body 56 or double chuck 54 through which two or more sleeves 80 can be positioned, moved, and fixed in place with various members, such as locking nuts 88. As illustrated in Figs. 1 and 2, a probe 90 can be passed through one of the sleeves and tracked. Hynes discloses that in addition and subsequently to probe 90, a number of instruments can be **serially** inserted through sleeves 80 of the double chuck 54. Such instruments include a stabilizing pin 106, a scalp punch 108, a twisted drill 116, and a ruler guide 128, and brain cannula." See, Hynes, col. 7, Ins. 16-20 (emphasis added). Hynes further discloses that the double chuck 54 can be locked securely by a ball collet locking screw with the instrument inserted through a sleeve that can be clamped as well. See, Hynes, col. 8, Ins. 27-32. Cosman is directed to a tracking system that can include trackable markers in multiple orientations. See, Cosman, Figs. 3A-4C. Foley is directed to a tracking system that can include a trackable marker that includes a foot 55 that is located below an array 170 that engages a shoe 56 and is connected by screws

57 and 58. See, Foley, Fig. 4E and col. 8, Ins. 30-32. Finally, Funda is directed to positioning instruments within a patient's body using a surgical microscope.

Contrary to the cited art, Independent Claim 1 has been amended to recite "a fixture . . . a plurality of cannulas coupled to the fixture . . . at least one trackable marker mounted on a frame that is coupled to the fixture to enable an instrument location system to detect a position of each of the plurality of cannulas throughout a surgical procedure without obstructing any of the cannulas during the procedure." Applicants respectfully submit that none of the cited art, including Hynes, discloses a fixture that has a plurality of attachment points fixed relative to each other and a plurality of cannulas coupled to the fixture and at least one trackable member coupled to the fixture. As claimed, the trackable member does not obstruct the cannulas and is operable to locate the cannulas throughout a surgical procedure. As discussed above, Hynes is directed to a head clamp that has articulated arms with moveable sleeves and a probe that is positioned through one of the sleeves to align the sleeve with the patient. Hynes discloses that the probe is serially positioned (i.e. removed) through the sleeve so that an instrument can then be positioned through the aligned sleeve to perform a procedure. Applicants respectfully submit that the other cited art does not overcome the failing of Hynes, therefore Independent Claim 1 is in condition for allowance.

Further, claims that depend directly or indirectly from Claim 1 also include patentable subject matter. For example, dependent Claim 3 recites "a peripheral structure, coupled to the fixture to move the fixture and thereby maneuver the plurality of cannulas during a surgical procedure to place the surgical implements." Hynes is directed to articulated arms that extend from the head clamp, are positioned in a

location, and include sleeves that can be aligned with a probe. Accordingly, Hynes can not include a peripheral structure coupled to a fixture to maneuver a plurality of cannulas during a surgical procedure. Hynes is contrary to Claim 3 in requiring that the probe 90 be used to align an articulated arm and the double chuck then serially and separately instruments are passed through the sleeve. The probe is removed.

Other claims that depend from Independent Claim 1 also include patentable subject matter. For example, dependent Claim 9 recites "wherein the fixture is interchangeable from the peripheral structure, and wherein the fixture is configured to accommodate at least one of: a variable number of cannulas, cannulas having a plurality of relative placement, or cannulas having a plurality of fixed relative angles." As discussed above, Hynes is directed to a double chuck including at least two sleeves that are moveable relative to one another and include a multiple locking nuts to lock them in configuration selected by a user. Hynes does not disclose a plurality of variable fixtures as claimed in dependent Claim 9. Further, dependent Claim 10 recites "wherein the peripheral structure is a pistol grip configured graspable handle." As discussed with the Examiners during the interview, Applicants respectfully submit that a pistol grip configured graspable handle is clearly not anticipated or fairly rendered obvious by the art cited in the rejections. Finally, dependent Claim 19 recites "wherein the frame is removeably coupled relative to the fixture using a dove-tail connection, wherein the dove-tail connection further comprises: a dove-tail connection member having a first planar surface and a second planar surface . . . and a riser member extending a length and interconnecting the dove-tail member and the fixture." As discussed above,

Applicants respectfully submit that the cited art does not disclose or render obvious a dove-tail connection as claimed in dependent Claim 19.

Independent Claim 39 has been amended to recite “a first fixture having a first configuration defined by a plurality of attachment points . . . and a first frame coupling region; a second fixture different from the first fixture and having a second configuration defined by a plurality of attachment points . . . and a second frame coupling region; . . . a trackable marker associated with all of the plurality of cannulas, the trackable marker mounted on a single frame, the single frame operable to be selectively coupled to the first frame coupling region of the first fixture or the second frame coupling region of the second fixture . . . the trackable marker is detectable by an instrument location system to detect the position of the plurality of cannulas relative to an anatomy in real-time.” As discussed above, Applicants respectfully submit that Hynes is directed to a probe positioned through a sleeve serially and prior to positioning a surgical instrument through the sleeve. Accordingly, the probe of Hynes can not detect a position of a plurality of cannulas in real-time. Further, Hynes discloses a double chuck that has a single configuration with multiple locking screws to fix the position of sleeves through the double chuck. Hynes does not disclose or fairly render obvious at least two fixtures having different configurations wherein a single frame is selectively coupled to either of the first fixture or the second fixture, as recited in Independent Claim 39. Accordingly, Applicants respectfully submit that Hynes does not anticipate or fairly render obvious Independent Claim 39. In addition, the other cited art does not overcome the failings of Hynes in this regard.

Further, claims that depend directly or indirectly from Independent Claim 39 also include a patentable subject matter. For example, dependent Claim 57 recites “wherein the first frame coupling region and the second frame coupling region both further comprise: a dovetail connection member . . . and a riser member extending a length.” As discussed above, the cited art does not disclose the claimed dovetail connection. Accordingly, Applicants respectfully submit that Independent Claim 39, and claims that depend directly or indirectly therefrom, are in condition for allowance in light of the cited art.

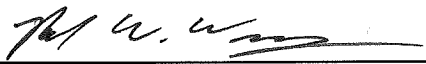
Finally, Independent Claim 48 has been amended it recite “a fixture that includes a pistol grip configured grasping handle . . . a plurality of cannulas each coupled to a respective one of the plurality of attachment points of the fixture so that manipulation of the pistol grip configured grasping handle maneuvers the plurality of cannulas simultaneously.” As discussed with the Examiners, Applicants respectfully submit that an agreement was reached that the art cited in the rejections does not anticipate or fairly render obvious a fixture that includes a pistol grip configured grasping handle as recited in Independent Claim 48. Accordingly, Independent Claim 48 and the claims that depend directly or indirectly therefrom, are in condition for allowance.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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